

REMARKS

Applicant notes with appreciation that, in the Office Action dated January 6, 2004, claims 6 and 9 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant respectfully requests a withdrawal of the objection to these claims based upon allowance of claims upon which they depend.

However, claims 1-3, 7, 8 and 10-23 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 6,608,942 ("Le"). In addition, claims 4 and 5 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Le in view of U.S. Patent No. 5,870,495 ("Mancuso et al"). Furthermore, claims 7, 8, 15, 20 and 22 were rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the enablement and written description requirements.

With respect to the rejection of claims 1-23 under 35 U.S.C. §102(b) or under 35 U.S.C. §103(a), Applicant has amended independent claims 1, 13 and 18 to more clearly distinguish the claimed invention from the cited prior art. With respect to the rejection of claims 7, 8, 15, 20 and 22 under 35 U.S.C. §112, first paragraph, Applicant asserts that there is no rational basis for the rejection. In view of these amendments to the claims and the following remarks, Applicant respectively asserts that pending claims 1-23 should be allowed.

A. Patentability of Amended Independent Claims 1 and 13

In the Office Action, independent claims 1 and 13 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by the cited reference of Le. In response, Applicant has amended claims 1 and 13 to more clearly distinguish the claimed invention from the cited prior art.

As amended, claim 1 now recites in part, "computing a second luminance characteristic of said selected region of said input digital image, said second

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luminance characteristic corresponding to curvature of said luminance values within said selected region." Similarly, as amended, claim 13 now recites in part, "a second filter for computing a second luminance characteristic of said selected region of said input digital image, said second luminance characteristic corresponding to curvature of said luminance values within said selected region". The amended independent claims 1 and 13 are not anticipated because the cited reference of Le does not disclose computing a second luminance characteristic that corresponds to curvature of luminance values, as recited in these claims.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131.

The cited reference of Le does not disclose anything related to curvature of luminance values, although the Office Action has asserted that "computing a two-dimensional luminance curvature value", as recited in claim 7, and "using a vertical curvature mask and a horizontal curvature mask to derive said two-dimensional luminance curvature value", as recited in claim 8, are taught by the cited reference of Le. Fig. 10A and column 19, lines 13-18, of Le, which were referenced in the Office Action with respect to the rejection of claim 7, refer only to a post-processing procedure in which a change in a pixel value is allowed only if the modified pixels in the neighborhood are ordered in a certain way. The cited figure and passage of Le do not relate in any way to "a two-dimensional luminance curvature value", as recited in claim 7. In addition, Table 2 and column 10, lines 5-67, of Le, which were referenced in the Office Action with respect to the rejection of claim 8, relate to gradient values and intensity difference, not "using a vertical curvature mask and a horizontal curvature mask to derive said two-dimensional curvature value", as recited in claim 8.

In fact, the cited reference of Le does not even mention the term "curvature" in any context. Thus, the cited reference of Le does not disclose "computing a second luminance characteristic of said selected region of an input digital image, said second luminance characteristic corresponding to curvature of said luminance values within said selected region", as recited in the amended claim 1, or "a second filter for

computing a second luminance characteristic of said selected region of said input digital image, said first luminance characteristic corresponding to curvature of said luminance values within said selected region", as recited in the amended claim 13. Since each element set forth in the amended claims 1 and 13 is not disclosed in the cited reference of Le, the amended claims 1 and 13 are not anticipated by the cited reference of Le and should be allowed.

B. Patentability of Amended Independent Claim 18

In the Office Action, independent claim 18 was also rejected under 35 U.S.C. §102(b) as allegedly being anticipated by the cited reference of Le. In response, Applicant has amended claim 18 to more clearly distinguish the claimed invention from the cited prior art.

As amended, claim 18 now recites in part, "comparing said first luminance characteristic and said maximum luminance value to corresponding thresholds to determine whether said selected region of said input digital image includes an edge of a text, including determining whether said maximum luminance value exceeds one of said corresponding thresholds". Thus, the amended claim 18 includes a similar subject matter as that of claim 10.

The Office Action has cited Fig. 17C of Le in rejecting claim 10. However, as illustrated by the decision block 1754 in Fig. 17C of Le, the maximum luminance value is used to determine if the minimum luminance value is equal to the maximum luminance value. Thus, the cited reference of Le does not teach "determining whether said maximum luminance value exceeds one of said corresponding thresholds", as recited in the amended independent claim 18. Consequently, the amended claim 18 is not anticipated by the cited reference of Le and should be allowed.

C. Compliance of Claims 7, 8, 15, 20 and 22 to 35 U.S.C. §112, First Paragraph

With respect to rejection of claims 7, 8, 15, 20 and 22 under 35 U.S.C. §112, first paragraph, Applicant respectfully asserts that there is no rational basis for the rejection and that these claims do comply with the enablement and written description

requirements. The term "luminance curvature value" is clearly supported in the specification. As an example, on page 9, lines 27-28, the specification states "[T]he curvature filter 218 reads the luminance values for the pixels within the window of observation and then outputs a curvature value." Furthermore, the concept of the luminance curvature value is clearly described in the specification to enable one of ordinary skill in the art to make and use the claimed invention. From page 9, line 23, to page 11, line 20, the specification describes in full detail with reference to Figs. 2, 3 and 6 how the two-dimensional curvature linear filter 218 outputs a curvature value using vertical and horizontal masks, such as those described on page 11. Since the term "luminance curvature value" is clearly supported in the specification and the concept of the term is clearly described in the specification, Applicant respectfully asserts that claims 7, 8, 15, 20 and 22 meet the enablement and written disclosure requirements and that the rejection be withdrawn.

D. Patentability of Dependent Claims 2-12, 14-17 and 19-23

Each of the dependent claims 2-12, 14-17 and 19-23 depends on one of the independent claims 1, 13 and 18. As such, these dependent claims include all the limitations of their respective base claims. Therefore, Applicant submits that these dependent claims are allowable for at least the same reasons as their respective base claims.

Applicant respectfully requests reconsideration of the claims in view of the amendments and remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted,



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